Channel Mitigation Monitoring Sheets I, II, III, AND IV

Monitoring Data Record

Project Title: I-2511CB (I-85 Widening) COE Action ID: 200221534
Stream Name: Town Creek (Site 5) DWQ Number: 040271
City, County and other Location Information: Rowan County, I-85 Widening (-TI-PINC Sta. 20+35)
Date Construction Completed: Water turned on 12/6/06, Stream reforestation completed 12/13/06
Monitoring Year: (5) of 5
Ecoregion: 8 digit HUC unit 03040103
USGS Quad Name and Coordinates:
Rosgen Classification:
Length of Project: 1,375 Urban or Rural: Urban Watershed Size:
Monitoring DATA collected by: M. Green and J. Young Date: 1/25/12
Applicant Information:
Name: NCDOT Roadside Environmental Unit
Address: 1425 Rock Quarry Rd, Raleigh, NC 27610
Telephone Number: (919) 861-3772 Email address: mlgreen@ncdot.gov
Consultant Information:
Name:
Address:
Telephone Number: Email address:
Project Status: Complete

Monitoring Level required by COE and DWQ (404 permit/ 401 Cert.): Level **1** ~~2~~ ~~3~~
Monitoring Level 1 requires completion of *Section 1, Section 2 and Section 3*

Monitoring Schedule: The permittee shall perform the following components of Level I monitoring each year for the 5-year monitoring period: Reference photos; plant survival (i.e., identify specific problem areas (missing, stressed, damaged or dead plantings), estimated causes, and proposed/required remedial action); visual inspection of channel stability. Physical measurements of channel stability/morphology will not be required. The permittee shall submit the monitoring reports to the Corps of Engineers, Raleigh Regulatory Field Office Project Manager, within sixty days after completing the monitoring. If less than two bankfull events occur during the first 5 years, the permittee shall continue monitoring until the second bankfull event is documented. The bankfull events must occur during separate monitoring years. In the event that the required bankfull events do not occur during the five-year monitoring period, the Corps of Engineers, in consultation with the resource agencies, may determine that further monitoring is not required. It is suggested that all bankfull occurrences be monitored and reported through the required monitoring period. The permittee shall perform and submit photo documentation twice each year (summer and winter) for the 5-year monitoring period, and for any subsequently required monitoring period.

Section 1. PHOTO REFERENCE SITES
(Monitoring at all levels must complete this section)

Total number of reference photo locations at this site: 5 photo point locations, 2 photos at each location. 2 additional photos were taken as an overview of the buffer area.
Dates reference photos have been taken at this site: 1/23/08, 9/4/08, 2/17/09, 8/10/09, 3/4/10, 9/17/10, 2/9/11, 6/28/11, 1/25/12
Individual from whom additional photos can be obtained (name, address, phone):

Other Information relative to site photo reference:

Section 2. PLANT SURVIVAL
Attach plan sheet indicating reference photos.

Identify specific problem areas (missing, stressed, damaged or dead plantings):

Estimated causes, and proposed/required remedial action**:**

ADDITIONAL COMMENTS: Planted vegetation consisted of black willow and silky dogwood live stakes on the streambanks and tag alder, green ash, red maple, river birch, swamp chestnut oak, willow oak, water oak, tulip poplar, and sycamore bareroot seedlings in the buffer area. The buffer area was replanted with river birch, swamp chestnut oak, and willow oak on 2/29/08 due to lack of planted vegetation. The buffer along the left side downstream of PP#3 was replanted on 3/1/11 with swamp chestnut oak, tulip poplar, and water oak and control access fence was installed to prevent further mowing of the site. NCDOT replanted the repaired area at Sta. 16+50 on 1/25/12 with river birch, sycamore, and green ash. Some beaver activity was noted which include old dams and some tree damage. NCDOT will continue to monitor vegetation at this stream relocation.

If required to complete Level 1 and Level 2 monitoring only stop here; otherwise, complete section 3.

Section 3. CHANNEL STABILITY

Visual Inspection: The entire stream project as well as each in-stream structure and bank stabilization/revetment structure must be evaluated and problems addressed.

Report on the visual inspection of channel stability. Physical measurements of channel stability/morphology will not be required. Include a discussion of any deviations from as-built and an evaluation of the significance of these deviations and whether they are indicative of a stabilizing or destabilizing situation.

The Town Creek stream relocation is stabile for the Year 5 Winter evaluation. NCDOT repaired the left bank at Sta. 16+50 on 8/3/11 by using the rock from the rock vane that was installed to construct the toe protection. The bank above the toe protection was graded at a 3:1 or flatter slope. Some minor bank erosion on the right bank @ Sta. 13+00 that was noted previously has seen little or no change since the last evaluation.

A site visit was conducted on May 5, 2011 with the regulatory agencies and NCDOT personnel present. NCDOT will continue to monitor this stream relocation.

Date Inspected 1/25/12	-TI- PINC Sta. 13+00				
Structure Type					
Is water piping through or around structure?					
Head cut or down cut present?					
Bank or scour erosion present?	Bank erosion on right bank at drainage ditch				
Other problems noted?					

Section 4. DEBIT LEDGER

The entire Town Creek (Site 5) stream mitigation site was used for the I-2511CB project to compensate for unavoidable stream impacts.

Town Creek

Photo Point #1 (Upstream)

Photo Point #1 (Downstream)

Photo Point #2 (Upstream)

Photo Point #2 (Downstream)

Photo Point #3 (Upstream)

Photo Point #3 (Downstream)

Town Creek

Photo Point #4 (Upstream)

Photo Point #4 (Downstream)

Photo Point # 5 (Upstream)

Photo Point #5 (Downstream)

(Overview looking downstream of buffer area)

(Overview looking upstream of buffer area)

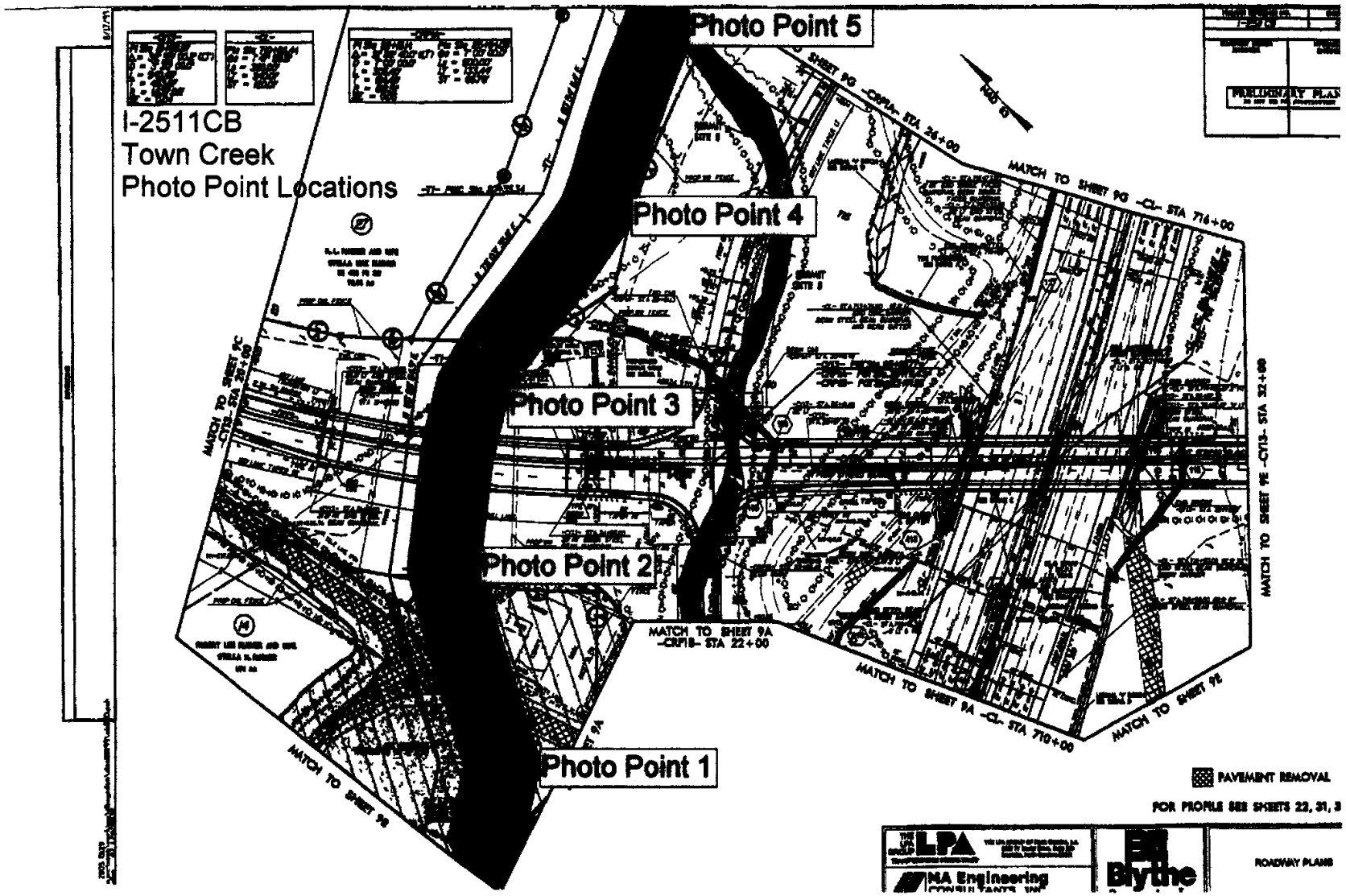
Year 5 Winter – January 2012

Town Creek

Erosion on right bank @ -TI- PINC Sta. 13+00

Repaired left bank @ -TI- PINC Sta. 16+50

Year 5 Winter – January 2012


I-2511CB
Town Creek
Photo Point Locations
Photo Point 5
Photo Point 4
Photo Point 3
Photo Point 2
Photo Point 1
MATCH TO SHEET 9C -CRP1A- STA 26+00
MATCH TO SHEET 9C -CL- STA 716+00
MATCH TO SHEET 9A -CRP1B- STA 22+00
MATCH TO SHEET 9A -CL- STA 710+00
MATCH TO SHEET 9B
MATCH TO SHEET 9B -CL- STA 32+00
PAVEMENT REMOVAL
FOR PROFILE SEE SHEETS 22, 31, 3
LPA
NA Engineering
Blythe
ROADWAY PLANS